



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,500	11/26/2003	Kendall W. Prince	9002.16	8993

7590 11/30/2005

KIRTON & McCONKIE
60 East South Temple, Suite 1800
Salt Lake City, UT 84111

EXAMINER

CHEN, BRET P

ART UNIT	PAPER NUMBER
----------	--------------

1762

DATE MAILED: 11/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/723,500

Applicant(s)

PRINCE ET AL.

Examiner

B. Chen

Art Unit

1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claims 1-24 are pending in this application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hey et al. (4,987,856). Hey discloses a method of providing a multi station single wafer chemical vapor deposition processor 10 which utilizes a wafer handling apparatus 16 in combination with a lock 14 (col.2 lines 5- 26). Specifically, a port 12 is utilized to transport wafers into and out of the reactor (col.3 lines 13-30) and is rectangular in shape (see Figure 1). It is the examiner's position that this port meets the limitation of the claimed aperture which conforms to the cross-sectional profile of the substrate. However, the reference remains silent on a substantially rigid substrate which has a substantially uniform cross-sectional profile.

It is noted that Hey discloses the use of semiconductor wafers. One skilled in the art would know that semiconductor wafers are generally rigid and have a uniform cross-sectional profile. It would have been obvious to utilize a substrate with a substantially rigid wafer which has a substantially uniform cross-sectional profile with the expectation of obtaining similar results.

Art Unit: 1762

In dependent claims 2, 6-11, the applicant requires specific temperature, thickness and composition. One skilled in the art would realize that lower processing temperatures, reduced thicknesses are desirable in a semiconductor wafer. Different compositions can also be utilized to achieve the desired semiconducting properties. It would have been obvious to one having ordinary skill in the art to have determined the optimum value of a cause effective variable such as temperature, thickness and composition through routine experimentation in the absence of a showing of criticality.

The limitations of claims 3-5, 12-13 have been addressed above.

In independent claim 14, the applicant requires a non-continuous substrate. This limitation is met by the semiconductor wafer of Hey.

The limitations of claims 15-24 have been addressed above.

Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toshima (4,785,962). Toshima discloses a method of using access openings to semiconductor vacuum fabrication chambers by using a slit valve (col.1 lines 5-13). Specifically, a multiple chamber system 10 has a vacuum loadlock chamber 11 which mounts several single wafer processing chambers 12, 13, 14, and 15 which contain standard plastic cassettes (col.2 line 65 – col.3 line 10). A small elongated slit or slot 42-46 to provide access between processing chambers 12-15 and loadlock chamber 11 are utilized (col.3 lines 25-46 and Figures 1-3). It is the examiner's position that this slot meets the limitation of the claimed aperture which conforms to the cross-sectional profile of the substrate. However, the reference remains silent on applying a coating.

Art Unit: 1762

It is noted that the reference clearly teaches of processing in a vacuum fabrication chamber. One well known process is coating. It would have been obvious to utilize a coating step as the processing step with the expectation of obtaining a processed semiconductor wafer.

The limitations of claims 3-24 have been addressed above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to B. Chen whose telephone number is (571) 272-1417. The examiner can normally be reached on 7:30am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Bc
11/28/05


BRET CHEN
PRIMARY EXAMINER